

Final

Concrete Monument Installation Report

**Stump Dump, Parcel 82(7)
Fort McClellan, Calhoun County, Alabama**

Prepared for:

**U.S. Army Corps of Engineers, Mobile District
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Mobile, Alabama**

Prepared by:

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**Task Order CK09
Contract No. DACA21-96-D-0018
Project No. 796886**

August 2004

Concrete Monument Installation Report Stump Dump, Parcel 82(7) Fort McClellan, Calhoun County, Alabama

As requested by the U.S. Army Corps of Engineers (USACE), Mobile District, the Army was tasked to install concrete monuments designating the fill area boundary at the Stump Dump, Parcel 82(7), located at Fort McClellan, Alabama. The USACE contracted Shaw Environmental, Inc. (Shaw) (formerly IT Corporation) to perform this work, under Contract Number DACA21-96-D-0018, Task Order CK09. This report documents the installation of the concrete monuments at the fill area.

The Stump Dump, Parcel 82(7) is an approximately 10-acre fill area located in the central portion of the Fort McClellan Main Post (Figure 1). The fill area was used as a disposal site between 1985 and 1988 and is currently inactive. The site primarily received storm debris (e.g., trees, branches, and flood-washed soil). Some unauthorized dumping of items such as construction debris (sheet rock and concrete), batteries, tires, paint cans, refrigerators, landscaping trash, and other materials also occurred (Environmental Science and Engineering, Inc., 1998). After its closure, the fill area surface was covered with soil and engineered with terraced decks. Several detention ponds were constructed around the fill area to control the rate of surface water runoff.

This parcel was the subject of a site investigation that included fill area definition activities, installation of borings in fill material, and environmental sampling (Shaw, 2003). The average depth of the fill was estimated to be approximately 8 feet below ground surface and the fill area was estimated to be approximately 10 acres in size. The site investigation concluded that the Stump Dump presents no unacceptable human health or ecological risks under the Comprehensive Environmental Response, Compensation, and Liability Act (Shaw, 2003).

The Stump Dump, Parcel 82(7) falls within the "Possible Artillery Impact Area" shown on Plate 10 of the Archives Search Report (USACE, 2001). Therefore, unexploded ordnance (UXO) surface sweeps and downhole surveys were performed to support field activities at this site. A surface sweep was conducted over the proposed monument locations prior to intrusive activities to identify potential UXO. Low-sensitivity magnetometers were used to locate surface and shallow-buried metal objects. Downhole UXO surveys were performed during borehole installation to determine if buried metallic objects were present. UXO monitoring continued to

the completed depth of the auger hole (approximately 38 inches). UXO was not encountered during monument installation activities. In addition, utility clearance was not required because utilities do not exist in the vicinity of the Stump Dump.

Twenty-seven concrete monuments were installed at the surveyed locations shown on Figure 2 and listed in Table 1. In some instances, the final monument location was moved a few feet from the proposed location based on site conditions. The concrete monuments were pre-cast using Type III Portland cement. Each monument is 7 feet in length and 8 inches square, as shown on Figure 3. Four pieces of 6-foot-long No. 4 reinforcing steel (rebar) were centered vertically in the concrete posts to strengthen the monument (shown on Section A-A' of Figure 3). The No. 4 rebar conforms to the American Society of Testing and Materials A 615, grade 60 rebar. The rebar was connected using 16-gauge steel wire ties. Prior to final casting of the monuments, circular bronze flat-head markers, 3½ inches in diameter with a 2-inch shank, were set into the sloped top face of the monument (Figure 3, Detail 1). The markers were inscribed "FILL AREA BOUNDARY" as shown in Detail 1 on Figure 3.

The borehole at each monument location was 18 inches in diameter and was drilled using an auger attachment mounted on a skid-steer Bobcat® loader. The holes were augered to a depth of approximately 38 inches below ground surface. The pre-cast concrete monuments were off loaded from a flat-bed truck using a fork-lift device mounted on the loader and placed into the borehole on an approximate 2-inch gravel base. The monuments were oriented such that the sloped top portion of the monument faced away from the fill area. The monuments were leveled during installation using a post leveler and concreted in place using a prepackaged Type I Portland cement mixture. The concrete was placed into the annular space of the borehole to a point approximately 1 inch above the ground surface and radially sloped away from the monument. The monuments were secured and adequately supported during concrete curing.

Photographs of the concrete monument construction and of the fill area after completion of monument installation are included in Appendix A.

References

Environmental Science and Engineering, Inc., 1998, *Final Environmental Baseline Survey, Fort McClellan, Alabama*, prepared for U.S. Army Environmental Center, Aberdeen Proving Ground, Maryland, January.

Shaw Environmental, Inc. (Shaw), 2003, ***Draft Site Investigation Report, Stump Dump, Parcel 82(7), Fort McClellan, Calhoun County, Alabama***, November.

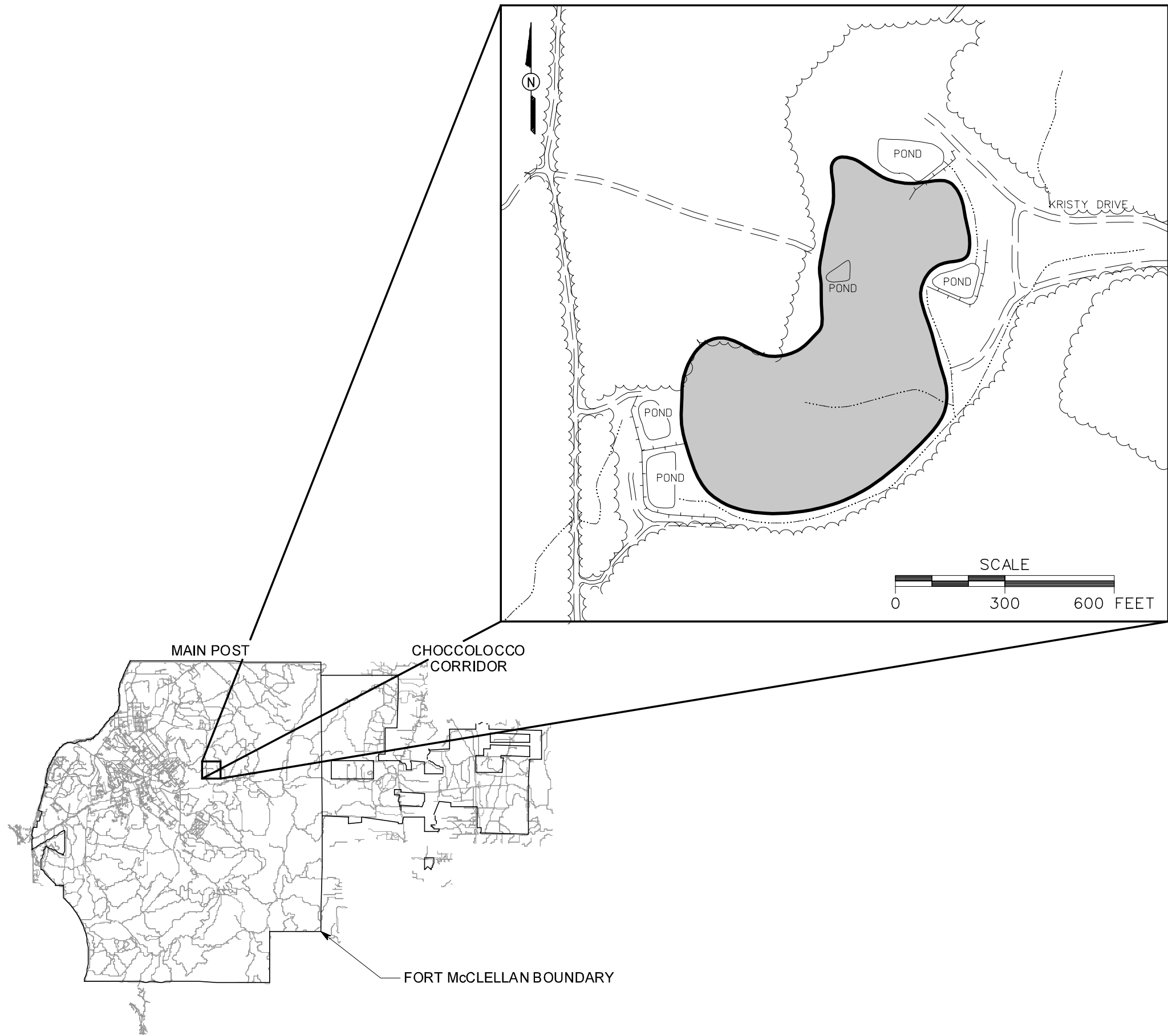
U.S. Army Corps of Engineers (USACE), 2001, ***Archives Search Report, Maps, Fort McClellan, Anniston, Alabama***, Revision 1, September.

Table 1

**Concrete Monument Locations
Stump Dump, Parcel 82(7)
Fort McClellan, Calhoun County, Alabama**

| Monument Location | Northing | Easting |
|--------------------------|-----------------|----------------|
| FTA-82-MON01 | 1170650.60 | 677434.57 |
| FTA-82-MON02 | 1170723.03 | 677503.08 |
| FTA-82-MON03 | 1170715.20 | 677575.51 |
| FTA-82-MON04 | 1170676.05 | 677669.47 |
| FTA-82-MON05 | 1170695.62 | 677743.85 |
| FTA-82-MON06 | 1170760.22 | 677804.53 |
| FTA-82-MON07 | 1170908.98 | 677794.74 |
| FTA-82-MON08 | 1171041.97 | 677818.59 |
| FTA-82-MON09 | 1171183.03 | 677826.06 |
| FTA-82-MON10 | 1171224.13 | 677855.42 |
| FTA-82-MON11 | 1171208.47 | 677904.36 |
| FTA-82-MON12 | 1171155.62 | 678006.15 |
| FTA-82-MON13 | 1171159.54 | 678125.55 |
| FTA-82-MON14 | 1171128.22 | 678174.49 |
| FTA-82-MON15 | 1170969.66 | 678205.80 |
| FTA-82-MON16 | 1170938.35 | 678166.66 |
| FTA-82-MON17 | 1170897.24 | 678090.32 |
| FTA-82-MON18 | 1170848.30 | 678072.70 |
| FTA-82-MON19 | 1170725.08 | 678107.31 |
| FTA-82-MON20 | 1170601.67 | 678139.25 |
| FTA-82-MON21 | 1170521.41 | 678135.34 |
| FTA-82-MON22 | 1170398.09 | 678027.68 |
| FTA-82-MON23 | 1170296.30 | 677890.66 |
| FTA-82-MON24 | 1170257.16 | 677765.38 |
| FTA-82-MON25 | 1170253.24 | 677587.25 |
| FTA-82-MON26 | 1170327.62 | 677471.76 |
| FTA-82-MON27 | 1170488.13 | 677416.96 |

Actual locations were subject to site suitability and may have been placed a few feet away from the proposed location.



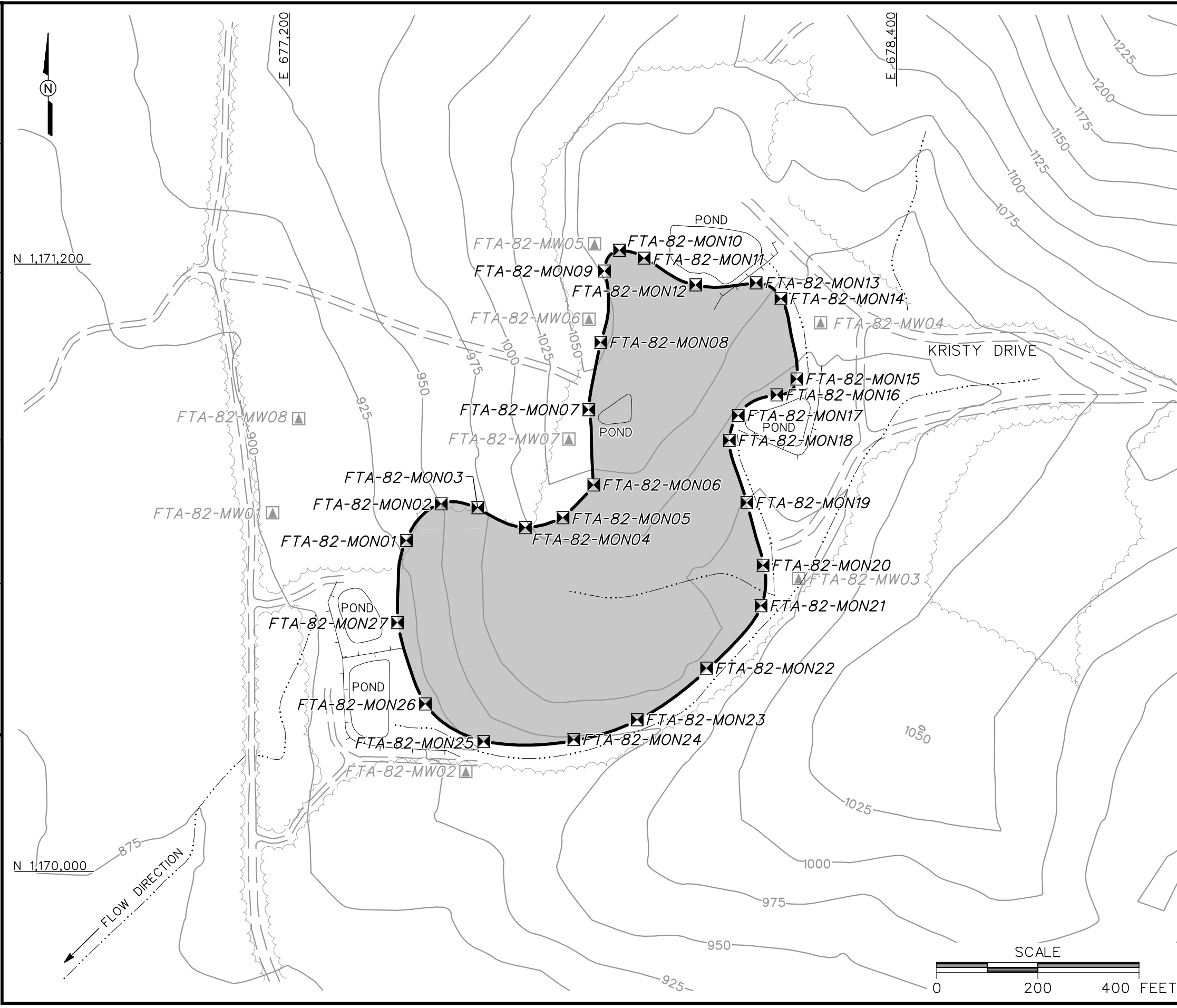
LEGEND

- UNIMPROVED ROADS
- TRES / TREELINE
- PARCEL BOUNDARY
- SURFACE DRAINAGE / CREEK
- BERM

FIGURE 1
SITE LOCATION MAP
STUMP DUMP
PARCEL 82(7)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

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8/17/2004 4:14:50 PM
STARTING DATE: 04/06/04
DRAWN BY: D. BOMAR
DATE LAST REV.:
DRAWN BY:
DRAFT, CHK, BY:
ENGR, CHK, BY: S. MORAN
INITIATOR: G. SISCO
PROJ. MGR.: J. YACOB
DWG. NO.: ...796886es.229
PROJ. NO.: 796886



LEGEND

- UNIMPROVED ROADS
- TOPOGRAPHIC CONTOURS (CONTOUR INTERVAL - 25 FOOT)
- TREES / TREELINE
- PARCEL BOUNDARY
- SURFACE DRAINAGE / CREEK
- BERM
- MONITORING WELL LOCATION
- CONCRETE MONUMENT LOCATION

FIGURE 2
SITE MAP
STUMP DUMP
PARCEL 82(7)

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
FORT McCLELLAN
CALHOUN COUNTY, ALABAMA
Contract No. DACA21-96-D-0018

SCALE
0 200 400 FEET

Shaw Shaw Environmental, Inc.

APPENDIX A

PHOTOGRAPHS



Monument Forms and Rebar Cages



Bronze Marker Stamped into Concrete Monument



Curing of Completed Concrete Monuments



Fill Area Boundary Markers, Stump Dump, Parcel 82(7)



Fill Area Boundary Markers, Stump Dump, Parcel 82(7)



Fill Area Boundary Markers, Stump Dump, Parcel 82(7)



Bronze Marker Closeup, Stump Dump, Parcel 82(7)